Yvette, the Bièvre, and the Vesgre, were conducted to the ponds of Hollande, St. Hubert, de la Tour, Parlay, Menil, and St. Denis, and from these to the larger ponds of Trappes, Bois d'Arcy, and Bois Robert.

These works did not yield enough water, and by Colbert's orders similar ones were executed on the plain of Palaiseau, between the valleys of the Yvette and the Bièvre, to lead the rain-waters into the ponds of Villiers, Saclé, Orsigny, and the Trou salé.

The waters of the first division were conducted to a distributing reservoir at Versailles, called the Reservoir de Montboron. Those of the second, to a reservoir in the Parc aux Cerfs.

The works consisted in the necessary dams, flood, and sluice-gates, of 25 ponds—112,000 metres of catch-water drain, and 34,000 metres of aqueduct, between the different ponds; some of these are from 1 to 2 and 3 metres wide; all are executed in meulières, and in a tolerable state of repair.

A large bridge aqueduct at Buc, 600 metres long and 40 metres above the Bièvre; this is in a good state of repair.

Bruyère concludes his article with this important piece of advice:—"Mon intention en exposant ici avec quelques détails les resultats de la grande expérience faite à Versailles, dont la dépense n'a pu être que très considérable, a été de prémunir ceux qui projettent des canaux contre les dangers qu'ils ont à redouter lorsqu'ils espèrent pouvoir les alimenter à l'aide des eaux pluviales rassemblées dans les réservoirs."

Mr. Tite concluded by stating that he was in no manner connected with any of the schemes for the supply of water, and was only led to the subject by its importance; and if it was objected that it was not the proper function for an architect, he would refer to the quotations from Vitruvius, to be found in the report; and he would point also to the period when the architects of Rome and Italy had entrusted to them the duty of supplying Rome, and other cities, with water, which they had performed in a style of magnificence, durability, and success, which had rendered their works, in this branch of architecture, the admiration of the world.*

SUBMARINE FOUNDATIONS.

Mr. Alexander Gordon, in a proposition for founding a lighthouse in Skerki Channel, for Keith's Reef,† says he is led to the conclusion that any of the ordinary and more recent systems of submarine foundation would fail in a work which must be executed at a moderate cost, and be perfectly secure in every agitation of the sea and atmosphere. He continues,—I was therefore led to seek out other systems of foundation, and have now arrived at a system of submarine foundations for lighthouses and beacons, which has not hitherto been applied, and of the efficiency and permanency of which no doubt can be entertained.

Having obtained footing on the rock (compact limestone), a strong wrought-iron bar should be at once jumped into the centre of the area of the peak, and immediately succeeded by other wrought-iron bars, on which to form a crow's nest, or an open platform: from this the surface and edges of the rock could be cleaned of the large quantity of sea-weed now upon it, and a small crane would enable us to have the edges of this rock trimmed and undercut, and a circular seat rudely prepared about 6 feet under water. It may not however be necessary to go to such a depth. A few sections of this seat will enable me to cast *lead slabs weighing a ton and a half or two tons*, such as can be dove-tailed into each other, and fastened together with lead joggles and dowels driven in hard, and the whole of the seams closely chinced or caulked with lead. This wall of lead will then be carried up about 15 inches thick, with the seams all chinced together below and above the water line, so as to prevent percolation of water. This lead wall, where above water, will have *its seams all run together with a powerful blow-pipe*. We may even manage to cast the upper portion of the lead wall upon the lower part.

The original iron rods will now be at their upper ends worked into the inner and dry side of the lead wall, forming bond as we proceed. At the extreme base of the tower the water will now be shut out by warm gutta percha, and then by hydraulic cement. Lead will then be run in to make the base perfect: a core of masonry perfectly bonded together is to occupy a great part of the interior. The fixed crane-post may then be built in, and thus be converted into bond and load: even if it should in some degree oxidise, the rust will do good rather than harm.

Lead is no doubt a costly article, but its durability in salt water, the facilities which it affords for making perfect bond, its inertia, and its not being susceptible of vibration, point it out, he considers, as the best material under the circumstances. The lead walls are to be carried up about twenty-four feet above the water-line, and upon them and the core of masonry (the latter in many places bonded together with lead), there will be a superstructure of cast-iron bonded together with wrought-iron floors, and fastened down to the rock by many very strong wrought-iron ties; which latter will not (where there is moisture) be allowed to come in contact with the lead. The junction of the iron shell and the lead wall must have special attention.

Cast-iron he considers wholly inappropriate for such works.

* Mr. Homersham, Mr. Clutterbuck, Mr. D'Aeon, and others spoke, but our space is exhausted.

† Printed in full in the *Nautical Magazine* for June.

Miscellanea.

Railway Jottings.—The 24th or 25th of this month is fixed for the floating of the fourth and last tube of the Britannia-bridge. The third tube has attained its elevation.——"The South-Western Railway," says Herepath, "now takes newspapers to the country, and delivers them at the stations to the parties addressed for the charge of 1d. each. Other railways will, of course, imitate the example, and thus to save one postman in each town an hour's labour, scores, perhaps hundreds, of individuals will be kept from going to church." The postmen are to be themselves pitied, for the financial principle of "less labour, less pay," appears about to be carried out at headquarters, as was to be anticipated. One poor fellow in the country, whose whole weekly allowance is 10s. 6d. (with which, however, he expresses himself contented) yet complains in the *Times* that an order has been issued by the Postmaster-General for a return with the view to a reduction of salaries, and that he has the prospect of losing 1s. 6d. a-week out of his small pittance, from the regard for him so zealously exhibited by those who run no risk in consequence, as he does, of sending the little ones supperless to bed. As for those postmen who petitioned against a "Sabbath-day's journey," certainly much to be regretted,—of course, they must have been prepared for the but too probable consequence—namely, Sunday's leisure without Sunday's pay.——Some additions are about to be erected at the goods department of the Derby station of the Midland Railway on plans by the company's engineers there.——The works of the Leeds and Thirsk line, at Yarm, consisting of a high embankment, a viaduct of thirty-nine arches, each about 39 feet 6 inches span, and varying in elevation from forty to sixty feet, and two stone arches spanning the Tees, are rapidly approaching completion. In the centre of the arches which span the river a shield bears the following inscription:—"Engineers—Thomas Grainger and John Bourne. Superintendent—Joseph Dixon. Contractors—Trowsdale, Jackson, and Garbutt, 1849."——A viaduct on the Whitehaven and Furness line, over the Esk near Ravenglass, was found to be on fire on Friday week. It was constructed principally of Baltic timber, and extended 975 feet in length, 24 feet in width, and about 60 in height. By cutting away the burning portion the flames were extinguished. The extent of damage done is about 130 feet in length. The extension of the line was to have been opened from Bootle to Ravenglass, six miles, on the following Monday. Incendiarism is suspected.

Liquidation of the National Debt.—A "Threadneedle-street Broker" proposes, in a clearly-written pamphlet recently published,* to reduce, and ultimately to liquidate, the National Debt, by converting the 3 per cent. stock into terminable annuities. In this way he conceives that stockholders, at present paid with 3*l.* per 100*l.*, might be paid up in thirty-one years, at the rate of 3*l.* 5*s.* per annum. "In other words, the stockholder consents, in consideration of the 3 per cent. interest being guaranteed from reductions for thirty years on 75*l.*, to be repaid the remaining 25*l.* by yearly instalments of 1*l.*, with interest." This proposition he afterwards modifies, but on the same principle. "The nation," he observes, in speaking of one instalment of the reduction, "owes 523,000,000*l.* to individuals, who are paid by the nation, out of the taxes, an annual interest of 15,690,000*l.*; and as little or no provision is made for the liquidation of the capital, at the end of thirty-one years we shall be in the same state, viz., owing 523,000,000*l.*, and paying annually 15,690,000*l.*; whereas, by the proposed plan, the nation will have paid an increased annual expenditure of 1,307,500*l.* for thirty-one years; and, at the end of that period, not only will that cease, but also the annuity of 3,922,500*l.* per annum; and the nation will have liquidated 130,750,000*l.* of the National Debt, leaving that portion of the debt then to be provided for only 392,250,000*l.*, subject to an annual expenditure for interest of 11,767,500*l.*, instead of 15,690,000*l.*, as at present. If the proposed temporary outgoing of 1,307,500*l.* cannot be provided for by a decrease of expenditure in other branches of the public service, it will only have to be endured till 1860, when a larger amount will be saved to the public by the falling in of the Long Annuities." The author of this pamphlet, which well deserves attention, is understood to be Mr. Charles Hill, a late sheriff of London.

Medals for the '51 Exhibition.—The committee appointed to select the best designs for medals, namely Lord Colborne, Mr. Dyce, R.A., Mr. Gibson, R.A., Mons. Eugène Lami, Mr. C. Newton, Herr J. D. Passavant, and Dr. Gustave Waagen, selected the following as most deserving of notice:—Nos. 65, 24, 105 (1), 104 (3), 28, and 66. The Commissioners accordingly decided that the 100*l.* prizes should be awarded to Nos. 65, 24, and 105 (1), and the 50*l.* prizes to Nos. 104 (3), 28, and 66. On opening the papers attached to these designs, they were found to have been submitted by the following gentlemen:—65, Mons. Hippolyte Bonnardel, of Paris; 24, Mr. Leonard C. Wyon, of London; 105 (1), Mr. G. G. Adams, of London; 104 (3), Mr. John Hancock, of London; 28, Mons. L. Wiener, of Brussels; 66, Mons. Gayrard, of Paris. Three of these, namely, Nos. 24, 105, and 104 (the three Englishmen, as it happens) were named amongst the few we pointed out for notice. As to the others, we may have something to say hereafter.

Westminster Hall.—The report again promulgated, that the roof of the hall is to be raised, has been formally denied by Mr. Barry. We thought we had set the matter at rest long ago.

Estimates for Sewers.—The following tenders were made for building 574 feet of pipe sewer at the back of Edward-square, Kensington. Surveyor's estimate, 250*l.*

Kamester	£190 7 0
Hill	175 0 0
Cooper	163 0 0
Humphreys and Thirst	129 6 0
Brooks	125 0 0
Jarvis	109 12 0
Williams	103 0 0

Wide Estimating.—Sir,—For a country church, to be erected in a village called Lydbrook, in the lower part of Gloucestershire, tenders were delivered and opened last week as follows:—

Myers, London	£3,800
Coleman, Westbury, near Gloucester	3,900
Roberts, Monmouth	3,565
Pearson Rose, Herefordshire	2,500

I think, instead of heading this "Blind Builders," you may say "Mad Builders."

A Resident.

List of tenders delivered July 5, for building a Gothic villa at Frankham, near Tunbridge Wells (Mr. Beck, architect): each party took out his own quantities:—

Cox, H. A., Godalming	£2,450 0
Walker and Soper, London	1,865 0
Barrett, Tunbridge Wells	1,690 6
Funnell and Maynard, Tunbridge (accepted)	1,580 0
Bullson, West Malling	1,445 0
Rowe, John, Hastings	1,076 14

* The Extinction and Liquidation of the National Debt. By "A Threadneedle-street Broker." Mann, Cornhill, 1850.

For information on OCR and PDF Compression go to our website